

REMARKS

The Applicants have carefully reviewed and considered the Office Action mailed on April 12, 2006, and the references cited therewith. Claims 1-3, 5-8, 10-14, and 16-19 have been amended to overcome the Examiner's formal rejections thereto, and to further define the invention over the art. No new matter has been entered as a result of the changes made thereto. Reconsideration and allowance of the subject application, as amended, are respectfully requested.

Claims 1-19 stand rejected under 35 USC § 103(a) as being unpatentable over Tyndall (US 2002/0156942). In view of the foregoing amendments and the following remarks, Applicants respectfully submit that this rejection is in error.

Applicants' newly amended claim 1 is provided below for the Examiner's convenience:

1. An apparatus, comprising:
an integrated circuit, comprised within a serial attached small computer system interface (SAS) expander, said integrated circuit is configured as a SAS virtual end device within said SAS expander, said integrated circuit is capable of communicating with at least a host system, a first SAS storage device and a second SAS storage device, said integrated circuit comprising copy manager circuitry, said copy manager circuitry is capable of generating one or more small computer system interface (SCSI) extended copy commands, in response to a copy command generated by said host system, to copy data from said first SAS storage device to said second SAS storage device via said SAS expander.

(Emphasis added).

In essence, claim 1 is directed to SCSI extended copy capabilities within a SAS expander. In addition, claim 1 requires that the integrated circuit, within the SAS expander, is configured as a SAS virtual end device. It is applicant's understanding of the state of the art in this field that SCSI extended copy capabilities have not heretofore been associated with a SAS expander, since a SAS expander is used to couple a plurality of SAS devices together using a SAS communications protocol, and the SAS communications protocol does not provide for SCSI extended copy commands.

It is Applicants understanding that Tyndall does not disclose the concept of using SCSI extended copy commands in a SAS expander. Tyndall appears to teach “a method and system for overlapping data flow within an extended copy command...in that they provide for simultaneously reading data in from a source device and writing data out to a destination device, thus allowing for simultaneous outstanding read and write commands.” (Para. 016).

Moreover, it appears the Examiner is equating the storage system router (16, 30) of Tyndall to an expander as presently claimed. Applicants disagree with the Examiner’s characterization of the Tyndall reference in that respect. The SCSI router (16 and 30 depicted in Figure 3) is described by Tyndall as a Fibre Channel-to-SCSI router that translates Fibre Channel and SCSI instructions. However, nowhere does the storage system router of Tyndall disclose or suggest a SAS expander. Indeed, it is applicant’s understanding that nowhere does Tyndall discuss SAS functionality or SAS communication protocols. As such, Tyndall could not disclose or suggests that an integrated circuit is configured as a SAS virtual end device within the SAS expander. Therefore, Applicants respectfully submit that newly amended claim 1 is patentably distinct from Tyndall.

Independent claims 6, 11 and 16 have been amended in a similar manner as independent claim 1, and each contains the critical limitations discussed above. The remaining claims depend, either directly or indirectly, upon independent claims 1, 6, 11 and 16.

Thus, in light of the claim amendments and argument set forth above, it is respectfully submitted that the Examiner’s rejection of the claims as being unpatentable under 35 USC 103 over the Tyndall reference is in error, and should be withdrawn.

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant’s attorney (603-668-6560) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-2121.

Respectfully submitted,

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